

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

WHAT IS CLAIMED IS:

1. (Previously Amended) An apparatus for mounting a cutting tool used in mining, road working or earth moving comprising: a bit holder, a protective wear sleeve for reducing wear between the cutting tool and said bit holder, said protective wear sleeve having an external portion and a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to be received, including a rearward disc end portion, an annular groove portion and a forward tapered portion, and a retainer, wherein when said wear sleeve is hammered into position inside said bit holder, said retainer is biased outwards against said bit holder, whereby once said protective wear sleeve is set in said bit holder by axial blows with a hammer, said protective wear sleeve will remain in said bit holder without relative rotational or axial movement between said protective wear sleeve and said bit holder.
2. (Original) The apparatus according to claim 1 wherein said forward tapered portion is tapered at an angle of between 5.5-7.0 degrees from a central axis of the wear sleeve.
3. (Previously Amended) The apparatus according to claim 2 wherein said retainer is positioned around said annular groove of the wear sleeve.
4. (Canceled)
5. (Original) The apparatus of claim 2 wherein said bit holder includes a cavity bore having a forward tapered portion and a rearward cylindrical portion for cooperatively receiving said wear sleeve.
6. (Original) The apparatus of claim 5 wherein said forward tapered portion of the bore is tapered at an angle of between 5.5-7.0 degrees from a central axis of the cavity bore.
7. (Previously Amended) The apparatus according to claim 1 wherein the external portion is adjacent to the forward tapered portion, said wear sleeve external portion has a shoulder and a rounded undercut portion between said shoulder and said forward tapered portion of said wear sleeve, whereby when said wear sleeve is subjected to large loads and torques, the rounded undercut portion weakens and fails first.

8. (Previously Amended) The apparatus according to claim 1 wherein said retainer is generally a cylindrical split sleeve retainer having beveled portions at both ends of said cylindrical retainer, whereby said beveled end portions compress when inserted into said bit holder, said beveled ends help bias said cylindrical split sleeve outwardly away from said wear sleeve.

9. (Original) The apparatus according to claim 8 wherein said retainer beveled portions are initially angled at 25 degrees with respect to the central axis of said cylindrical retainer.

10. (Previously Amended) A joint coupling comprising:
a female member,
a male member,
said male member having an external portion and a portion that is adapted to being received in said female member, said male member portion that is adapted to be received including a rearward disc end portion, an annular groove portion, a forward tapered portion and a retainer,
wherein when said male member is hammered into position inside said female member, said retainer is biased outwards against said female member,
whereby once said male member is set in said female member, said male member will remain in said female member without relative rotational or axial movement between said male member and said female member.

11. (Previously Amended) The joint coupling according to claim 10 wherein said retainer is positioned around said annular groove of the male member.

12. (Canceled)

13. (Original) The joint coupling according to claim 10 wherein said female member includes a cavity bore having a forward tapered portion and a rearward cylindrical portion for cooperatively receiving said male member.

14. (Canceled)

15. (Previously Amended) The joint coupling according to claim 10 wherein the external portion is adjacent to the forward tapered portion, said male member external portion has a shoulder and a rounded undercut portion between said shoulder and said forward tapered portion of said male member, whereby when said male member is subjected to large loads and torques the rounded undercut portion weakens and fails first.

16. (Original) The apparatus to claim 11 wherein said retainer is generally a cylindrical split sleeve retainer having beveled portions at both ends of said cylindrical retainer, whereby said beveled end portions compress when inserted into said female member, said beveled ends help bias said cylindrical split sleeve outwardly away from said male member.

17. (Original) The joint coupling according to claim 16 wherein said retainer beveled portions are initially angled at 25 degrees with respect to the central axis of said cylindrical retainer.

18. (Previously Amended) A cutting tool assembly comprising:
a bit holder,
a protective wear sleeve for reducing wear between the cutting tool and said bit holder,

said protective wear sleeve having an external portion and a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to be received including a rearward disc end portion, an annular groove portion, a forward tapered portion and a retainer, wherein when said wear sleeve is hammered into position inside said bit holder, said retainer is biased outwards against said bit holder, whereby once said protective wear sleeve is set in said bit holder by axial blows with a hammer, said protective wear sleeve will remain in said bit holder without relative rotational or axial movement between said protective wear sleeve and said bit holder.

19. (Previously amended) An apparatus for mounting a cutting tool used in mining, road working or earth moving comprising:

a bit holder including a cavity bore having a rearward cylindrical portion,

a protective wear sleeve for reducing wear between the cutting tool and said bit holder, said protective wear sleeve having a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to be received including a rearward disc end portion, an annular groove portion, a forward tapered portion and a retainer,

wherein when said protective wear sleeve is hammered into position inside said bit holder, said retainer is biased outwards against said rearward cylindrical portion,

whereby once said protective wear sleeve is set in said bit holder by axial blows with a hammer, said protective wear sleeve will remain in said bit holder without relative rotational or axial movement between said protective wear sleeve and said bit holder.

20. (Previously Added) The apparatus according to claim 19 wherein said wear sleeve further comprises an external portion having a shoulder.

21. (Previously amended) An apparatus for mounting a cutting tool used in mining, road working or earth moving comprising:

a bit holder including a cavity bore having a forward tapered portion and a rearward cylindrical portion,

a protective wear sleeve for reducing wear between the cutting tool and said bit holder, said protective wear sleeve having a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to be received including a rearward disc end portion, an annular groove portion, a retainer and a forward tapered portion,

wherein when said protective wear sleeve is hammered into position inside said bit holder, said retainer is biased outwards against said rearward cylindrical portion,

whereby once said protective wear sleeve is set in said bit holder by axial blows with a hammer, said protective wear sleeve will remain in said bit holder without relative rotational or axial movement between said protective wear sleeve and said bit holder.

22. (Previously Added) The apparatus according to claim 21 wherein the wear sleeve has an external portion adjacent to the forward tapered portion, said wear sleeve external portion has a shoulder and a rounded undercut portion between said shoulder and said forward tapered portion of said wear sleeve, whereby when said wear sleeve is subjected to large loads and torques, the rounded undercut portion weakens and fails first.

23. (Previously Added) A wear sleeve for reducing wear between a cutting tool and a bit holder comprising:

an external portion and a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to being received including a rearward disc end portion, an annular groove portion and a forward tapered portion, said annular groove portion adapted to receive a generally cylindrical retainer,

wherein said wear sleeve has an external portion adjacent to the forward tapered portion, said wear sleeve external portion has a shoulder and a rounded undercut portion for forming a preferential fail point between said shoulder and said forward tapered portion of said wear sleeve.

24. (Currently Amended) A cutter bit wear sleeve for reducing wear between a cutting tool and a bit holder, the wear sleeve having a central axis, said wear sleeve comprising:

an annular groove portion adapted to receive a generally cylindrical
sleeve retainer;

a forward tapered portion; and
a shoulder;

wherein said forward tapered portion is between said annular groove
and said shoulder, and said forward tapered portion is axially spaced from said shoulder.

25. (Previously Added) The cutter bit wear sleeve according to claim 24
further comprising a rounded undercut portion, wherein said rounded undercut portion is
between said shoulder and said forward tapered portion of said wear sleeve.

26. (Previously added) The cutter bit wear sleeve according to claim 24
further comprising a retainer.

27. (Previously Added) The cutter bit wear sleeve according to claim 25
further comprising a retainer.

28. (Previously Added) The cutter bit wear sleeve according to claim 27
wherein said retainer is positioned around said annular groove of the wear sleeve.

Claims 29-35 (Canceled)
